

REMARKS

Currently pending are claims 1-49, 51, and 56-202. Claims 6-10, 14-17, 40-49, 51, 59-61, 63, 66, 67, 69-85, 91, 93-100 and 118 have been allowed. Claims 1, 2, 5, 11, 18-12, 22, 28, 31, 32, 38, 39, 86, 101-104, 106, 115-117, 119-124, 126-129, 131-138, 142-151, 153, 154, 157-159, 162-165, 171-173, 175, 176, 179-181, 184-187, 189-197, and 200-202 have been rejected. Claims 3, 4, 12, 13, 21, 23-27, 29, 30, 33-37, 56-58, 62, 64, 65, 68, 87-90, 92, 105, 107-114, 125, 130, 139-141, 152, 155, 156, 160, 161, 166-170, 174, 177, 178, 182, 183, 188-192, 198, and 199 have been objected to.

Applicant submitted the Declaration of Dr. Andrew R. Barron, under 37 § 1.132 on August 24, 2004. Dr. Barron received A.R.C.S. and B.Sc. (1st Class, Hones.) degrees, majoring in chemistry, at Imperial College of Science and Technology, University of London in 1986. He received a D.I.C. and Ph.D., at the same university in 1986. He was a Post-Doctoral Research Associate, at the University of Texas, Austin in 1986-1987.

Dr. Barron was an Assistant Professor and then an Associate Professor, at Harvard University from 1987 to 1995. In the fall of 1995, he went to Rice University, where he is currently the Charles W. Duncan, Jr. - Welch Chair of Chemistry and Professor of Materials Science in the Department of Chemistry and Department of Mechanical Engineering and Materials Science. He has authored over two hundred journal articles and has made a like number of presentations.

As explained by Dr. Barron, lactoferrin (LF) has a bilboate structure, with a positively charged N-terminus lobe and a negatively charged C-terminus lobe. (Barron Decl., ¶ 7.) (*Id.*) A full length LF peptide sequence has about 600 to about

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800 continuous amino acids. Human LF, in particular, is about 703 amino acids long and has a molecular weight of about 83,000 daltons. (*Id.*)

LF is a known antimicrobial agent. Its activity is highly dependent on its three-dimensional or tertiary structure. (Specification, col. 7, lines 16 and 17.) If LF does not have the proper conformation, its activity is diminished or lost. Specification, col. 7, lines 17 and 18.)

Now it has been unexpectedly found that LF can be stabilized and its antimicrobial activity increased, if the LF is immobilized by binding its N-terminus to a suitable, naturally occurring substrate, *i.e.*, if LF has its N-terminus region attached to a substrate leaving the C-terminus region free to interact with microbes. (Appl. page 7, line 34-page 8, line 3.) For LF to become immobilized on a substrate and, in particular on a naturally occurring substrate, the portion of the substrate which is to do the binding should carry the opposite charge, *i.e.*, carry a positive charge. (Barron Decl., ¶ 9.)

The examiner discounts Dr. Barron's declaration. The examiner asserts that the declaration should be ignored, because Dr. Barron "performs no direct testing on the prior art compositions in order to determine whether or not they comprise LF immobilized to a naturally occurring substrate via the N-terminus region of the LF," but "attempt[s] to show by scientific reasoning and/or argument that the prior art compositions [sic] do not teach this feature."

Applicant respectfully disagrees. The declaration has a well founded factual basis that is entirely consistent with the disclosure set forth in applicant's specification. There is no requirement that a declaration submitted under 37 C.F.R. 1.132, be based on direct testing.

The examiner asserts that:

One major argument made by Declarant and in the Remarks is that '[f]or the N-terminus region to become immobilized on a naturally occurring substrate, the region of the substrate to which the N-terminus region is to become attached should carry the opposite charge, i.e., carry a negative charge. . .' However, Declarant does not provide any citation to the specification which would support this contention, and the examiner can find no support in the original disclosure of the invention for this contention.

Support for the contention is provided by applicant's frequent and unequivocal teaching that LF must be immobilized on the substrate via the N-terminus region of the LF. Applicant was not required to provide an explanation in the specification concerning how his invention worked, *i.e.*, how the N-terminus region is immobilized on the substrate. Dr. Barron's explanation – that to be immobilized, the positive N-terminus region must bind with a negatively charged substrate – is of importance only in the context of subsequently trying to help the examiner understand how the invention is distinguishable over the prior art.

The examiner also asserts that:

Further, this argument is inconsistent with the disclosure of in the specification of useful substrates which do not have a positive charge. For example, the original specification at page 10, line 22, and originally-filed claim 3 disclose triglycerides to be useful substrates for immobilizing lactoferrin by its N-terminus region. Triglycerides are uncharged. The original specification at page 10, lines 19-22, and originally-filed claim 3 disclose proteins, polysaccharides, and lipids to be useful substrates for

immobilizing lactoferrin by its N-terminus. These classes of compounds embrace positively charged, negatively charged, and uncharged compounds.

What is clear when the application is considered in its entirety is that a suitable substrate must be one on which the LF becomes immobilized via its N-terminus. For example, originally filed dependent claim 3 did not simply, broadly cover substrates, including triglycerides. Instead, the substrates were subject to the limitation that the LF must be immobilized via its N-terminal region. For the reasons given by Dr. Barron, LF cannot bind to triglycerides and other lipids via its N-terminal region. (It is important to note that there is nothing in the record that contradicts Dr. Barron's declaration. None of the references relied upon by the examiner suggest that LF can become immobilized on lipids, such as triglycerides.) Consequently, what is inconsistent with applicant's overall teachings is applicant's initial recitation of triglycerides and other lipids – not Dr. Barron's declaration. This inconsistency has been corrected. All the claims now recite only substrates on which LF is immobilized via its N-terminus.

Applicant has never stated that all proteins and polysaccharides are useful. They too are subject to the limitation that the LF must be immobilized to the substrate via its N-terminal region. There are numerous examples of suitable proteins and polysaccharides. Useful proteins include fibronectin, casein and mucin, while suitable polysaccharides include galactose-rich polysaccharides, collagen, heparin-sulfate, and carrageenan. (Page 10, lines 19-23.) These all contain negatively charged regions and, accordingly, are all consistent with Dr. Barron's explanation of what it takes to immobilize LF by its N-terminus region. Therefore, Dr. Barron's declaration is not inconsistent with the claimed invention.

Lastly, the examiner asserted:

Finally, this argument by Declarant uses a significant qualifier "should." Because of this use of this word, Declarant in effect admits that a substrate does not have to have a negative charge in order to be useful in immobilizing lactoferrin by its N-terminus.

Applicant respectfully disagrees. The primary definition of "should" as found in Merriam-Webster's Collegiate Dictionary, Eleventh Addition, p. 1153 (copy attached) is "1 -- used in auxiliary function to express condition <if he ~ leave his father, his father would die – Gen 44:22(RSV)>" Dr. Barron uses "should" in this same conditional sense – if LF is to be bound to the substrate via its N-terminus, the substrate ~ have a region carrying a negative charge. Therefore, Dr. Barron's use of the word "should," supports the argument that LF must be immobilized on a substrate having a negative region.

In particular, the Examiner rejected claims 102-104, 115-117, 119, 124, 127, 128, 137, 138, 142-148, 154, 157, 158, 171, 172, 176, 179, 180, 186, and 193-196 under 35 U.S.C. 102(e) as being anticipated by US 6,475,511 B2 ("Gohlke *et al.*"). Gohlke *et al.* describe compositions containing a combination of colostrum and LF in a "mucosal delivery format" ("MDF"). (Col. 6, lines 13-28.) The composition can also contain modified pectin. (Col. 6, lines 49-52.) By MDF is meant a composition, such as a lozenge, formed of *solid* components. (Barron Decl., ¶ 11.) For example, Gohlke *et al.* teach, "The individual components of the composition may be obtained from commercial sources: colostrum (which is dehydrated by standard spray-drying procedures known in the art)" (col. 9, lines 41-44). Furthermore, examples 1 - 3 describe a process for preparing the compositions where, "[E]ach of the following ingredients is placed, in *powdered* form, into a commercial mixer." (Emphasis added.) The ingredients are then mixed and *cold pressed*.

The examiner argues that:

With respect to Gohlke et al (U.S. Patent No. 6,475,511), Declarant argues that cold pressing as occurs in Gohlke et al will not provide an environment suitable to cause lactoferrin to become attached to the colostrum or the modified pectin via the lactoferrin's N-terminus region. However, Declarant does not provide any reasoning or evidence as to why these processing steps of Gohlke et al are insufficient to result in immobilization via the N-terminus of lactoferrin.

Further, there is no disclosure anywhere in the specification that special procedures or conditions are necessary in order to achieve the desired immobilization. See, e.g., page 11, lines 3-11, of the specification. In the absence of a disclosed need for special conditions, Gohlke et al's disclosed thorough mixing and cold pressing of the ingredient in powder form is deemed to be sufficient to result in the claimed immobilization.

Applicant respectfully disagrees. Dr. Barron makes plain that LF will not become immobilized, if it is simply admixed with another solid. He explains, "The mere presence of LF in a cold-pressed mixture with other *solids*, such as colostrum and modified pectin in an MDF format, would not inherently result in the LF becoming attached via its N-terminus." (Barron Decl., ¶ 13, emphasis added.)

It is not clear what the examiner means by "special conditions." Applicant teaches that LF is immobilized on the substrate using a *suitable* technique and gives as an example "mixing the LF with the biologically active substrate in a suitable medium, such as deionized water." (Specification, page 11, lines 3-5.)

Accordingly, nothing in the specification, in Gohlke *et al.* or in any of the other references contradicts Dr. Barron's declaration and suggests that LF can become immobilized simply by admixing with another solid. Therefore, Gohlke *et al.* does not anticipate any of claims 102-104, 115-117, 119, 124, 127, 128, 137, 138, 142-148, 154, 157, 158, 171, 172, 176, 179, 180, 186, and 193-196, so that this ground for rejection should be withdrawn.

The examiner also rejected claims 1, 2, 11, 18, 19, 28, 31, 39, 101-103, 119-124, 126-129, 131, 132, 134, 142-151, 153, 164, 171-173, 175, 186, 193-195, 197, and 200 under 35 USC §102(b) as being anticipated by or under 35 USC §103(a) as obvious in view of WO Patent Application 91/13982 ("WO Patent Application '982"). WO Patent Application '982 generally relates to human LF expressed using recombinant DNA. It discloses the use of this LF as a nutritional supplement, an antiseptic, and as a food-spoilage retardant. The LF can be compounded with certain carriers or diluents.

However, WO Patent Application '982 neither broadly teaches LF immobilized on a naturally occurring substrate via the N-terminus region of the LF, nor does it provide a specific example of such an immobilized LF. (Barron Decl., ¶ 15.) The examiner suggests that:

"The WO Patent Application '982 teaches LF in combination with stearic acid (which is a lipid and also corresponds to Applicant's pharmaceutically acceptable carrier of claim 102) or its salts . . . Because the same components are present in the same defined dispersion, inherently the LF in the composition of the WO Patent

Application '982 will be immobilized via its N-terminus.

..."

Applicant respectfully disagrees. Stearic acid is not a naturally occurring substrate as the term is to be understood in the context of the instant specification and claims. For example, stearic acid with a molecular weight of only 284.47 is not a substrate on which LF can be immobilized. That would be akin to saying that a dog was immobilized on a flea, if a flea attached itself to a dog.

The examiner asserts that:

This argument cannot be accepted because it contradicts the original disclosure of substrates with molecular weights significantly less than that of lactoferrin. For example, page 10, lines 19-22, of the specification and originally-filed claim 3 recite that nucleic acids, nucleotides, lipids, adenosine triphosphate, and triglycerides are useful and acceptable substrates. These exemplified substrates have molecular weights which are significantly less than that of lactoferrin. Accordingly, stearic acid can not be disqualified as a substrate merely because of its molecular weight.

What is wrong, however, is not applicant's argument, as supported by Dr. Barron's declaration. Instead, what was wrong was the original inclusion of lipids, such as stearic acid, among the examples of suitable substrates. The reality is that LF cannot be immobilized by a lipid. As explained by Dr. Barron, "Stearic acid with a molecular weight of only 284.47 is not a substrate. LF could not become immobilized on such a small molecule." (Barron Decl., ¶ 17.) Accordingly, applicant's claims have been amended to omit inoperable "substrates," such as lipids.

Furthermore, the *mere presence* in a mixture of LF and stearic acid would *not* result in immobilization of the LF via its N-terminus on a substrate. The reference does not disclose or suggest any conditions under which the compounds could be mixed to achieve such immobilization. Merely compounding solid LF with solid stearic acid, such as by cold-pressing the solid ingredients, will not provide an environment suitable to cause the LF to become immobilized via its N-terminus region. Instead, appropriate conditions must be chosen before immobilization can occur. As described in the instant application, LF is immobilized by first mixing the LF with the naturally occurring substrate in a *suitable medium*, such as deionized water.

The examiner asserts that:

“Declarant also argues that mere compounding will not result in lactoferrin’s attachment to the stearic acid through the N-terminus of the lactoferrin. However, Declarant does not provide any reasoning or evidence to support this argument, and there is not disclosure any where (sic) in the specification that special procedures or conditions are necessary in order to achieve the desired immobilization. Further, because stearic acid has a negatively charged carboxyl group, all that it would take for the positively charged N-terminus of lactoferrin to become immobilized on the negatively charged carboxyl group would be to bring the two opposite charges into close physical proximity – charge attraction will do the remainder of the work. Any pharmaceutical compounding step will provide the necessary physical proximity so that at least some of the lactoferrin is immobilized by its N-terminus to a (sic) least some of the stearic acid.

Applicant respectfully disagrees. Dr. Barron makes plain that simply compounding LF with stearic acid will not result in LF's attachment. As Dr. Barron explains, "Merely compounding solid LF with other solids, such as stearic acid, will not provide an environment suitable to cause the LF to become attached to the other solid via LF's N-terminus region." (Barron Decl., ¶ 11.) The basis for his reasoning is readily apparent, merely admixing two solids, even if they have regions of opposing charges, does not provide the conditions necessary for immobilization to occur.

It is not clear what the examiner means by "special procedures or conditions". Applicant teaches that LF is immobilized on the substrate using a *suitable* technique and gives as an example "mixing the LF with the biologically active substrate in a suitable medium, such as deionized water." (Specification, page 11, lines 3-5.) Accordingly, nothing in the specification, in WO Patent Application '982 or any of the other references relied upon by the examiner contradicts Dr. Barron's declaration and suggests that LF can become using "any pharmaceutical compounding step." Therefore, the rejection of claims 1, 2, 11, 18, 19, 28, 31, 39, 101-103, 119-124, 126-129, 131, 132, 134, 142-151, 153, 164, 171-173, 175, 186, 193-195, 197, and 200 as being anticipated by or as obvious in view of WO Patent Application '982 should be withdrawn.

The examiner rejected claims 1, 2, 5, 18, 19, 22, 31, 38, 39, 101-103, 106, 115-117, 119-124, 126-129, 131-132, 134, 136, 142-151, 153, 164, 171-173, 175, 186, 193-197, and 200-202 under 35 USC § 102(b) as being anticipated by or under 35 USC § 103(a) as obvious in view of European Patent Application 753,309 ("European Patent Application '309"). European Patent Application '309 generally relates to the preparation of mixtures of LF and desferrioxamine methanesulphonate useful for the therapy of viral infectious diseases.

European Patent Application '309 neither broadly teaches LF immobilized on a naturally occurring substrate via the N-terminus region of the LF, nor does it provides a specific example of such an immobilized LF. (Barron Decl., ¶ 21.) The examiner asserts that:

The European Patent Application '309 teaches compositions comprising LF and carriers such as paraffin oil and Vaseline (which are lipids), xantan gum and corn starch (which are polysaccharides), and lecithin (which is an emulsifier) Because the same components are present in the same defined dispersion, inherently the LF in the composition of the European Patent Application '309 will be immobilized by its N-terminus . . .

Applicant respectfully disagrees. Paraffin oil or, as it alternatively called mineral oil, is a mixture of liquid hydrocarbons. (Concise Chemical and Technical Dictionary, H. Bennett, Ed., Chemical Publishing Co., Inc. (1974) (pp. 702 and 777) (copy attached). Vaseline is a petroleum jelly, *i.e.*, a purified mixture of semi-solid hydrocarbons. (*Id.*, pp. 798 and 1100.)(copy attached.) They are low molecular weight compounds, not substrates, and LF could not become immobilized on such small molecules. (Barron Decl., ¶ 23.) Additionally, paraffin oil and Vaseline are both hydrocarbons, so that they do not carry any charge. (Barron Decl., ¶ 25.) As a result, neither paraffin oil nor Vaseline contains a region which will attach LF's positively charged N-terminus region. (*Id.*)

Similarly, lecithin is a low molecular weight compound. (Barron Decl., ¶ 27.) LF could not become immobilized on such a small molecule. (*Id.*)

Xanthan gum and corn starch do not carry any charges. (Barron Decl., ¶ 26.) As a result, neither xanthan gum nor corn starch contains a region which will attach LF's positively charged N-terminus region. (*Id.*)

Applicant's arguments are fully supported by Dr. Barron's declaration. Applicant has never asserted that all polysaccharides are useful. On the contrary, the polysaccharides are subject to the limitation that the LF must be immobilized to the substrate via its N-terminal region. Furthermore, inoperable "substrates," such as lipids, have been deleted from the claims. Therefore, the claims do not read on low molecular weight compounds, such as paraffin oil, Vaseline, and lecithin or on compounds lacking the negatively charged region needed to immobilize the N-terminus region of LF, such as paraffin oil, Vaseline, xanthan gum or corn starch. Nor would such low molecular weight or neutral compounds have suggested a composition of matter comprising LF immobilized on a substrate via the N-terminus region of the LF. Therefore, the rejection of claims 1, 2, 5, 18, 19, 22, 31, 38, 39, 101-103, 106, 115-117, 119-124, 126-129, 131, 132, 134, 136, 142-151, 153, 164, 171-173, 175, 186, 193-197, and 200-202 as being anticipated by or as obvious in view of European Patent Application '309 should be withdrawn.

The examiner rejected claims 1, 2, 5, 18, 19, 22, 31, 32, 38, 39, 101-103, 106, 115, 119-124, 126-129, 131-136, 142-151, 153, 162-165, 171-173, 181, 184-187, 193-197, and 200-202 under 35 USC §102(b) as being anticipated by or under 35 USC §103(a) as obvious in view of European Patent Application 753,308 ("European Patent Application '308"). European Patent Application '308 generally relates to the use of LF for therapy of diseases caused by Gram positive pathogen microorganisms.

European Patent Application '308 neither broadly teaches LF immobilized on a naturally occurring substrate via the N-terminus region of the LF, nor does it provide a specific example of such an immobilized LF. (Barron Decl., ¶ 26.) The examiner asserts that:

The European Patent Application '308 teaches compositions comprising LF and peppermint oil, gum base and corn starch (which are polysaccharides) . . . Because the same components are present in the same defined dispersion, inherently the LF in the composition of the European Patent Application '308 will be immobilized via its N-terminus . . .

Applicant respectfully disagrees. Peppermint oil is a low molecular weight compound. LF could not become immobilized on such a small molecule. (Barron Decl., ¶ 28.)

Furthermore, peppermint oil, gum base and corn starch do not carry any charges. As a result, neither peppermint oil, gum base nor corn starch contain a region which will attach LF's positively charged N-terminus region.

Applicant's arguments are fully supported by Dr. Barron's declaration. Applicant has never asserted that all polysaccharides are useful. On the contrary, the polysaccharides are subject to the limitation that the LF must be immobilized to the substrate via its N-terminal region. Therefore, the claims do not read on low molecular weight compounds, such as peppermint oil or on compounds lacking the negatively charged region needed to immobilize the N-terminus region of LF, such as gum base or corn starch. Nor would such low molecular weight or neutral

compounds have suggested a composition of matter comprising LF immobilized on a substrate via the N-terminus region of the LF. Therefore, the rejection of claims 1, 2, 5, 18, 19, 22, 31, 32, 38, 39, 101-103, 106, 115, 119-124, 126-129, 131-136, 142-151, 153, 162-165, 171-173, 181, 184-187, 193-197, and 200-202 as being anticipated by or as obvious in view of European Patent Application '308 should be withdrawn.

The examiner rejected claims 1-3, 5, 18-20, 22, 31, 32, 102-104, 106, 115, 119, 124, 137, 138, 142-150, 154, 164, and 165 under 35 USC § 102(e) as being anticipated by US Patent 6,066,469 by Kruzel *et al.* ("Kruzel *et al.*"). This patent discloses the use of LF as a nutritional supplement, an antiseptic, to treat and prevent opportunistic bacterial, viral and fungal infections, and as a food-spoilage retardant. It neither broadly teaches LF immobilized on a naturally occurring substrate via the N-terminus region of the LF, nor does it provide a specific example of such an immobilized LF. (Barron Decl., ¶ 30.) The examiner asserts that:

"Kruzel *et al.* teach nutritional supplements comprising LF in combination with adjuvants or diluents such as cellulose, starch, tragacanth, and sodium carboxymethylcellulose Because the same components are present in the same defined dispersion, inherently the LF in the nutritional supplements of Kruzel *et al.* will be immobilized via its N-terminus"

Applicant respectfully disagrees. Cellulose and starch do not carry any charges. (Barron Decl., ¶ 34.) As a result, neither cellulose nor starch contains a region which will attach LF's positively charged N-terminus region. (*Id.*)

Applicant's argument is fully supported by Dr. Barron's declaration. Applicant has never asserted that all naturally occurring "substrates" are useful. On the contrary, the substrates are subject to the limitation that the LF must be immobilized via its N-terminal region. Therefore, the claims do not read on compounds lacking the negatively charged region needed to immobilize the N-terminus region of LF, such as cellulose or starch.

Moreover, Dr. Barron makes plain that Kruzel *et al.* does not disclose nor suggest any conditions under which the compounds could be mixed to result in the LF becoming attached via its N-terminus. (Barron Decl., ¶ 35.) He explains, "The mere presence in a mixture of LF and an adjuvant or a diluent, such as the solids cellulose, starch, tragacanth, and sodium carboxymethylcellulose would not inherently result in the LF becoming attached via its N-terminus." (Barron Decl., ¶ 33.)

It is not clear what the examiner means by "special conditions." Applicant teaches that LF is immobilized on the substrate using a *suitable* technique and gives as an example "mixing the LF with the biologically active substrate in a suitable medium, such as deionized water. (Specification, page 11, lines 3-5.) Accordingly, nothing in Kruzel *et al.*, the specification, or in any of the other references contradicts Dr. Barron's declaration and suggests that LF can become immobilized simply by admixing with another solid. Therefore, the rejection of claims 1-3, 5, 18-20, 22, 31, 32, 102-104, 106, 115, 119, 124, 137, 138, 142-150, 154, 164, and 165 as being anticipated by Kruzel *et al.* should be withdrawn.

Appl. No. 09/980,062
Applicant: Naidu, Satyanarayan A.
Reply to Final Office Action of April 7, 2005
Atty Dkt No. 50046290-0007 (US-PCT-106099)

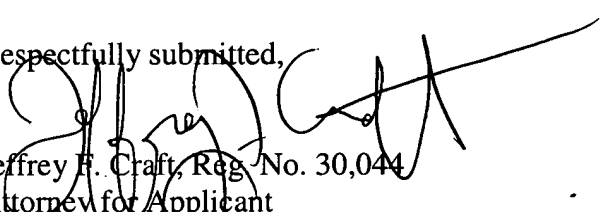
Jeffrey E. Russel, Patent Examiner
Art Unit: 1654

CONCLUSION

In light of the foregoing amendments and remarks, it is believed that the application is in condition for allowance, so that a prompt and favorable action is respectfully requested.

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Respectfully submitted,



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Attachments: A, B and C

ATTACHMENT A

Merriam- Webster's Collegiate[®] Dictionary

ELEVENTH
EDITION



Merriam-Webster, Incorporated
Springfield, Massachusetts, U.S.A.

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wn b: RANGE,
that shoots; esp
GUESS, CONJEC-

CHANCE 4a (a ~ at winning the prize) d: a single appear-
ance as an entertainer (did a guest ~ for the program) 7: an effec-
tive remark; esp: **SWEEP** 2 (a parting ~) 8 a: a single photographic
exposure; esp: **SNAPSHOT** b: a single sequence of a motion picture or
a television program shot by one camera without interruption 9: a
charge of explosives 10 a: a small measure or serving (as one ounce)
of undiluted liquor or other beverage (vodka ~s) (a ~ of espresso)
b: a small amount applied at one time: **DOSE** (a ~ of fertilizer) (a ~
of humor) 11 shot pl: **SPRINKLES, JIMMIES** — a shot: for each one
of humor) 11 shot pl: very rapidly — shot in the arm: **STIMU-
LUS BOOST** — shot in the dark 1: a wild guess 2: an attempt that
has little chance of success

shot past and past part of SHOOT

shot adj (1763) 1 a of a fabric: having contrasting and changeable col-
ors or effects: **IRIDESCENT** b: suffused or streaked with a color (hair ~
with gray) c: infused or permeated with a quality or element (~
with wit) 2: having the form of pellets resembling shot 3
reduced to a ruined or useless state (his nerves are ~)

shot clock n (1973): a clock in basketball that displays a countdown
of the time within which shooting the ball is required

shot-gun (shōt-gən) n (1776) 1: a smoothbore shoulder weapon for
firing shot at short ranges 2: an offensive football formation in which
the quarterback plays a few yards behind the line of scrimmage and the
other backs are scattered as flankers or slotbacks — **shotgun vt** —
shot-gun-ner (-gə-nər) n

shotgun adj (1892) 1: of, relating to, or using a shotgun 2: involv-
ing coercion 3: covering a wide field with hit-or-miss effectiveness

shotgun house n (1940): a house in which all the rooms are in direct
line with each other usu. front to back — called also **shotgun cottage**,
shotgun shack; compare **RAILROAD FLAT**

shotgun marriage n (1929) 1: a marriage forced or required be-
cause of pregnancy — called also **shotgun wedding** 2: a forced union
(a spate of brokerage mergers ... hastily arranged **shotgun marriages** —
John Brooks)

shot hole n (1875) 1: a drilled hole in which a charge of dynamite is
expelled 2: the dropping out of small rounded fragments of leaves
that produces a shot-riddled appearance and is caused esp. by parasitic
action

shot put n (1898): a field event in which a shot is heaved for distance
— **shot-put-ter** (shōt-pū-tər) n

shot-ten (shōt-tən) adj [ME *shōten*, fr. pp. of *sheten* to shoot] (15c)
having ejected the spawn and so of inferior food value (~ herring)

should (shōld) *verb* auxiliary, past of **SHALL** [ME *sholde*, fr. OE
scoldan owed, was obliged to, ought to] (bef. 12c) 1 — used in auxilia-
ry function to express condition (if he ~ leave his father, his father
would die — Gen 44:22(RSV)) 2 — used in auxiliary function to ex-
press obligation, propriety, or expediency ('tis commanded I ~ do so
— Shak.) (this is as it ~ be — H. L. Savage) (you ~ brush your teeth
after each meal) 3 — used in auxiliary function to express futurity
from a point of view in the past (realized that she ~ have to do most of
her farm work before sunrise — Ellen Glasgow) 4 — used in auxiliary
function to express what is probable or expected (with an early start,
they ~ be here by noon) 5 — used in auxiliary function to express a
request in a polite manner or to soften direct statement (I ~ suggest
that a guide ... is the first essential — L. D. Reddick)

shoulder (shōld-ər) n [ME *sholder*, fr. OE *sculdor*; akin to OHG *scul-
ter* shoulder] (bef. 12c) 1 a: the laterally projecting part of the hu-
man body formed of the bones and joints with their covering tissue by
which the arm is connected with the trunk b: the region of the body
of nonhuman vertebrates that corresponds to the shoulder but is less
projecting 2 a: the two shoulders and the upper part of the back —
usu. used in pl. b pl: capacity for bearing a task or blame (placed the
guilt squarely on his ~s) 3: a cut of meat including the upper joint
of the foreleg and adjacent parts — see **LAMB** illustration 4: the part
of a garment at the wearer's shoulder 5: an area adjacent to or along
the edge of a higher, more prominent, or more important part: a
(1) the part of a hill or mountain near the top (2) a lateral protru-
sion or extension of a hill or mountain b: either edge of a roadway;
specif: the part of a roadway outside of the traveled way 6: a round-
ed or sloping part (as of a stringed instrument or a bottle) where the
neck joins the body — **shouldered** (-dər-d) adj

shoulder vb *should-ered; should-er-ing* (-d(ə-)rɪŋ) vt (14c) 1: to
push or thrust with or as if with the shoulder: **JOSTLE** (~ed his way
through the crowd) 2 a: to place or bear on the shoulder (~ed her
knapsack) b: to assume the burden or responsibility of (~ the
blame) ~ vi: to push with or as if with the shoulders aggressively

shoulder bag n (1912): a handbag looped over the shoulder by a strap
shoulder belt n (1967): an automobile safety belt worn across the tor-
so and over the shoulder — called also **shoulder harness**

shoulder blade n (14c): **SCAPULA**
shoulder board n (1942): one of a pair of broad pieces of stiffened
cloth worn on the shoulders of a military uniform and carrying insignia

shoulder girdle n (1868): the bony or cartilaginous arch that supports
the forelimbs of a vertebrate — called also **pectoral girdle**

shoulder knot n (1676) 1: an ornamental knot of ribbon or lace
worn on the shoulder in the 17th and 18th centuries 2: a detachable
ornament of braided wire cord worn on ceremonial occasions on the
shoulders of a uniform by a commissioned officer

shoulder patch n (1945): a cloth patch bearing an identifying mark
and worn on one sleeve of a uniform below the shoulder

shoulder strap n (1688): a strap that passes across the shoulder and
holds up an article or garment

should-st (shōld-st) *archaic past 2d sing of SHALL*
shouldn't (shōld-n't, -d'n, dial also shōld-n't) or 'shuntl' (1675)
: should not

shouldst (shōldst, shōldst, shōldst) *archaic past 2d sing of SHALL*
shout (shaut) vb [ME] (14c) 1: to utter a sudden loud cry 2: to
command attention as if by shouting (a quality that ~s from good
novels — John Gardner) ~ vi: to utter in a loud voice 2: to
cause to be, come, or stop by or as if by shouting (~ed himself hoarse;
the proponents ~ed down the opposition) — **shouter** n

shout n (14c): a loud cry or call
shouting distance n (1930): a short distance: easy reach — usu. used
with *within* (lived within shouting distance of her cousins)

shout-out (shaut-əut) n (1990): a brief expression of greeting or
praise given esp. on a broadcast or audio recording

shout song n (1925): a rhythmic song sung at religious services esp.
by black Americans and characterized by responsive singing or shout-
ing between leader and congregation

shove (shav) vb *shoved; shov-ling* [ME, fr. OE *scūfan* to thrust away;
akin to OHG *scioban* to push and prob. to Lith *skubti* to hurry] vt (bef.
12c) 1: to push along 2: to push or put in a rough, careless, or hasty
manner: **THRUST** 3: to force by other than physical means: **COMPEL**
(~ a bill through the legislature) ~ vi 1: to move by forcing a way
(bargain hunters *shoving* up to the counter) 2 a: to move something
by exerting force b: **LEAVE** — usu. used with *off* (*shoved off for
home*) — **shov-er** n

shove n (14c): an act or instance of shoving: a forcible push

shovel (shə-vəl) n [ME, fr. OE *scoff*; akin to OHG *scūfla* shovel, OE
scūfan to thrust away] (bef. 12c) 1 a: a hand implement consisting of
a broad scoop or a more or less hollowed out blade with a handle used
to lift and throw material b: something that resembles a shovel c:
an excavating machine; esp: a hydraulic diesel-engine driven power
shovel 2: **SHOVELFUL**

shovel vb *-eled or -elled; -el-ing or -el-ling* (shə-və-lɪŋ, shəv-lɪŋ) vt
(15c) 1: to take up and throw with a shovel 2: to dig or clean out
with a shovel 3: to throw or convey roughly or in a mass as if with a
shovel (~ed his food into his mouth) ~ vi: to use a shovel

shovel-er or **shovel-ler** (shə-və-lər, shəv-lər) n (15c) 1: one that
shovels 2: any of several freshwater ducks (genus *Anas*) that have a
large very broad bill and feed by dabbling

shovel-ful (shə-vəl-fəl) n, pl **shovelfuls** (shə-vəl-fūlz) also **shov-els-ful**
(shə-vəl-fūlz) (1533): as much as a shovel will hold

shovel hat n (1829): a shallow-crowned hat with a wide brim curved
up at the sides that is worn by some clergymen

shovel-nose (-nəz) n (1709): a shovel-nosed animal and esp. a fish
shovel-nosed (shə-vəl-nəzd) adj (1707): having a broad flat head,
nose, or beak

shovel pass n (1940): a short underhand pass (as in football)

show (shō) vb *showed* (shōd); **shown** (shōn) or *showed*; **show-
ing** [ME *shewen*, *shōwen*, fr. OE *scēawian* to look, look at, see; akin to
OHG *scouwōn* to look, look at, and prob. to L *cavēre* to be on one's
guard] vt (12c) 1: to cause or permit to be seen: **EXHIBIT** (~ed pic-
tures of the baby) 2: to offer for sale (stores were ~ing new spring
suits) 3: to present as a public spectacle: **PERFORM** 4: to reveal by
one's condition, nature, or behavior (~ed themselves to be cowards)

5: to give indication or record of (an anemometer ~s wind speed) 6
a: to point out; direct attention to (~ed the view from the terrace)
b: **CONDUCT, USHER** (~ed me to an aisle seat) 7: **ACCORD, BESTOW**
(~s them no mercy) 8 a: to set forth: **DECLARE** b: **ALLEGE**,
PLEAD — used esp. in law (~ cause) 9 a: to demonstrate or estab-
lish by argument or reasoning (~ a plan to be faulty) b: **INFORM**,
INSTRUCT (~ed me how to solve the problem) 10: to present (an animal
for judging in a show ~ vi 1 a: to be or come in view (3:15
~ed on the clock) b: to put in an appearance (failed to ~) 2 a: to
appear in a particular way (anger ~ed in their faces) b: **SEEM, AP-
PEAR** 3 a: to give a theatrical performance b: to be staged or pre-
sented 4 a: to appear as a contestant b: to present an animal in a
show 5: to finish third or at least third (as in a horse race) 6: to ex-
hibit one's artistic work — **show-able** (shō-ə-bəl) adj — **show one's
hand** also **show one's cards** 1: to display one's cards faceup 2
: to declare one's intentions or reveal one's resources — **show one
the door**: to tell someone to get out; also: **FIRE** 2b

syn **SHOW, EXHIBIT, DISPLAY, EXPOSE, PARADE, FLAUNT** mean to
present so as to invite notice or attention. **SHOW** implies no more than
enabling another to see or examine (*showed* her snapshots to the
whole group). **EXHIBIT** stresses putting forward prominently or open-
ly (*exhibit* paintings at a gallery). **DISPLAY** emphasizes putting in a po-
sition where others may see to advantage (*display* sale items). **EXPOSE**
suggests bringing forth from concealment and displaying (sought to
expose the hypocrisy of the town fathers). **PARADE** implies an ostenta-
tious or arrogant displaying (*parading* their piety for all to see).
FLAUNT suggests a shameless, boastful, often offensive parading (nou-
veau riches *flaunting* their wealth).

syn **SHOW, MANIFEST, EVIDENCE, EVINCE, DEMONSTRATE** mean to
reveal outwardly or make apparent. **SHOW** is the general term but
sometimes implies that what is revealed must be gained by inference
from acts, looks, or words (careful not to *show* his true feelings).
MANIFEST implies a plainer, more immediate revelation (*manifested*
musical ability at an early age). **EVIDENCE** suggests serving as proof of
the actuality or existence of something (a commitment *evidenced* by
years of loyal service). **EVINCE** implies a showing by outward marks
or signs (*evinced* not the slightest fear). **DEMONSTRATE** implies show-
ing by action or by display of feeling (*demonstrated* their approval by
loud applause).

2 show n, often attrib (13c) 1: a demonstrative display (a ~ of
strength) 2 a *archaic*: outward appearance b: a false semblance
: **PRETENSE** (made a ~ of friendship) c: a more or less true appear-
ance of something: **SIGN** d: an impressive display (his role as
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ATTACHMENT B

Third Enlarged Edition

CONCISE CHEMICAL and TECHNICAL DICTIONARY

Edited by

H. Bennett, F.A.I.C.

B. R. Laboratory

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er formed on iron and steel during fabrication.

millstone. See buhrstone.

"Milltrox." Wet-milled zircon.

mill, universal. Two-high or three-high rolling mill with both horizontal and vertical rolls; frequently, the vertical rolls are doubled, with one pair on each side of the horizontal rolls.

Milmer. Copper δ -quinolinolate; used as textile preservative.

"Milogard." propazine.

Milontin. phensuximide.

Milorganite. See nitroorganic.

milori blue. Prussian blue with slight bronze overtones; besides the ferric ferrocyanide, it may contain gypsum, alum, barium sulfate or chalk; used in the manufacture of laundry blue, lithographic and printing inks, paints, coloring soaps, fertilizer mixtures.

milori green. Yellowish green pigment, chiefly lead chromate.

"Miltown." mepropamate.

Milvex. nylon film.

Milvex. nylon resin.

Milwaloy. Corrosion-resistant, high-alloy steels, with up to 30% chromium and up to 15% nickel.

minemetite (memetesite). $3\text{Pb}_3\text{As}_2\text{O}_8 \cdot \text{PbCl}_2$; yel., br., wh. or col. hex. min.; sp.gr. 6.98-7.25; hardness 3.5.

mimosine. 3-hydroxy-4-oxo-1 (4H) pyridinealanine.

min. Minute; minium (Apothecary); minimum; mineral.

min (subscript). Minimum.

minargent. Copper-base alloys, high in nickel (32 to 40% with fractional percentages of aluminum and other elements; used as a silver substitute.

mineral. Solid inorganic element or compound occurring naturally in the earth's crust, e.g. native copper, bauxite, etc.

mineral black. Carbonaceous rock or mineral powder; used as a black pigment.

mineral blue. See iron ferrocyanide (ic).

mineral brown. Metallic brown (see) mineral butter. See antimony trichloride.

Mineral Colloid --. montmorillonite.

mineral colza oil. Mineral burning oil.

mineral cotton. See slag wool and rock wool.

mineral dressing. Processing of raw minerals to yield marketable products and waste by means that do not destroy the physical and chemical identity of the minerals.

Mineralead. Sulfur and silica.

mineral, economic. Mineral of commercial value.

mineral fat. See petrolatum.

mineral green. See mountain green.

Mineralites Powdered mica.

mineralizer. Small quantity of flux, e.g., lime, added to a ceramic batch to promote crystal growth or compound formation.

mineral jelly. See petrolatum.

mineralogical hardness. See Moh's hardness.

mineralogy. Study of rocks and minerals.

mineral oil. (white liquid paraffin; liquid petrolatum; Alboline; adepsine oil; Paroline; Saxol). Mixture of liquid hydrocarbons obtained from petroleum; col. trans. liq.; sp.gr. 0.828-0.905²⁵; b.p. 360; i.w.; s.eth.; s.bz.; used in paints, varnishes, lacquers, medicine, sprays, as a solvent.

mineral orange. See red lead.

mineral red. See red lead.

mineral rouge. See red iron oxide.

mineral rubber (gilsonite; elaterite). Fossil resin resembling asphaltum, found only in U.S.; dk. br. sol.; sp.gr. 1.065-1.070; m.p. 160-170; used in varnishes, protective coatings, in insulating, paving and waterproofing.

mineral seal oil. Distillate with a boiling range between those of kerosene and gas oil proper; used for illuminating light-houses.

mineral spirits. Petroleum solvent; b.p. 153.3-203.9.

mineral spirits #10. Petroleum solvent; b.p. 152.2-197.8.

mineral tallow. See bitumen.

mineral tar. Soft natural asphalt.

mineral wax. See ozokerite wax.

mineral white. barium sulfate.

mineral wool (slag wool). Fibrous material, resulting from the action of a jet of steam on molten slag; used in insulating.

mineral yellow. yellow ochre.

"Minerec." Dixanthogen.

Minerol. solubilized light mineral oil.

miners' inch. In mining, aperture, one inch square with the upper edge 6 inches below the surface of a stream, which is used to measure rate of flow; yield about 1.5 cubic feet per minute.

miners' oil. Mineral burning oil mixed with refined white fish oil.

"Minicel." polypropylene foam sheet.

Minicel L-200. Cross-linked polyethylene foam.

"Minicel" S-2000. Cross-linked polyethylene foam.

"Minifos." monoammonium phosphate.

minimum deviation. Deviation or change of direction of light passing through a prism when the angle of incidence equals the angle of emergence.

mini-plant. Small plant chemical processes, inter between laboratory and industrial.

minium. See red lead.

Minkowski's theorem. Its place in a four-dimensional continuum.

Minofor. Tin-base alloy, mainly 19% antimony, copper, and optionally iron.

Minol. Explosive, used in charges, consisting of TNT nitrate and aluminum powder.

Minoline Yellow mixture of castor, mineral and oil used as a softening agent for cotton and wool.

mint. See spearmint.

mint camphor. Menthol.

"Mintezol." thiabendazole.

Mintrex. solvent naphthalene.

Mintrol. solvent naphthalene.

Min-U-Gel. attapulgite.

minus-blue. Substance that gives a blue light.

minus-green. Substance that gives a green light.

Min-U-Sil. Micron sized silica.

minus mesh. Portion of a sample passing through a given mesh.

minus-red. Substance that gives a red light.

Minvar. Cast ferrous alloy, 38% nickel and 1 to 3% expansion alloy.

"Miochol." acetylcholine mannitol.

Miokon. diprotrizoate.

"Mipafos." bis(monoisobutyl) fluorophosphineoxide.

Mi-Phos M-5. manganese precipitating compound.

Mi-Phos Z-3. zinc phosphide compound.

"Mi-Phos" 6. iron phosphide compound.

Mi-Phos 8. iron phosphate compound.

Mipolam. Polyvinyl chloride, non-inflammable, rubberlike electrical insulation.

Mipol M-20. Rubberlike microcrystalline wax in mineral oil.

"Mir." lauryl sulfate.

mirabilite (Glauber salt). $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$; wh. monoc. min.; sp.gr. 2.66; hardness 1.5-2.0.

Miracil. 1-Diethylaminomethylthioxanthone; use in Mira-Creme.

Miradon. anisindione.

"Miragene" T. fatty acid.

Miralite. Alloy with 96% aluminum.

casein of the milk.

paracetamol. See *p*-hydroxy acetanilide.

parachloramine [1-(*p*-chloro- α -phenylbenzyl)-4-(*m*-methylbenzyl)piperazine meclizine; meclozine]. $C_{25}H_{27}ClN_2 \cdot 2HCl$; m.w. 465; cr.; i.w.; s.al.; s.chl.

parachor. True measure of molecular volume as determined from Sugden's function which accounts for the surface tension.

Paracide. *p*-dichlorobenzol.

"Paricin" 9. propyleneglycol monohydroxy-stearate.

Paracin I. Methyl hydroxy stearate.

paracodin tartrate (dihydrocodeine bitartrate). $C_{18}H_{23}NO_2 \cdot C_4H_6O_6 \cdot H_2O$; m.w. 469.25; wh. cr.; d. 187; s.w.; s.al.

"Paracol." wax and wax-rosin emulsions.

Paracon. High molecular weight condensation product of hydroxy acids or of dibasic acids with glycols.

paraconic acid (tetrahydro-5-oxo-3-furan carboxylic acid; itamalic acid γ -lactone). $CH_2COOCH_2CHCOOH$; m.w.

130.05; cr.; deliq.; m.p. 58; s.w.

"Paracortol." preonisolone.

paracoto (coto). Dried bark of a Bolivian tree containing paracotoin, hydrocotoin, leucotoin.

paracotoin. $C_{12}H_8O$; m.w. 216.06; lt.-yel. cr.; m.p. 162; s.al.; s.eth.

paracoumarone. See coumarone-indene resin.

"Paracril." nitrile rubber.

paracrystalline. Term applied to grouping of molecules just prior to crystallization.

paracumarone. See coumarone-indene resin.

paracyanogen. $(CN)_x$; m.w. (26.01) x ; br. powd.; i.w.

paradamite. $Zn_2AsO_4 \cdot OH$. min.

Paradene. Paracumarone-indene resin.

Paradione. paramethadione.

paradise plant. See mezereum.

paradise-seed oil (grains of paradise oil). Essential oil distilled from seeds of *Amomum melegueta*; odor similar to that of cardamon oil.

paradol (gingerol). $C_9H_{14}O_2$; m.w. 154.11; yel. semi-liq.; sp.gr. 1.069; i.w.; s.al.; s.eth.; amaroid.

Paradol. Condensation product of methylene and cresolsulfonic acid.

Paradone. Vat dye.

Paradow. *p*-dichlorobenzene.

Paradura. Phenolic resin.

"Paradyne." dipyrone.

paraffin-base oil. Petroleum which yields a residue of solid paraffin on distillation.

paraffin, chlorinated. See chlorinated paraffin.

paraffinicity. Proportion of paraffins, in a petroleum, relative to naphthenes and other compounds.

Paraffin Inhibitor Sticks. micro-crystalline wax and amorphous polyethylene.

paraffin jelly. See petrolatum.

paraffin liquid. mineral oil.

paraffin native. See ozokerite wax.

paraffin, neo. See neoparaffin.

paraffin oil. See mineral oil.

paraffins. See alkanes.

paraffin scale. Crude paraffin wax.

paraffin series. Hydrocarbons of formula C_nH_{2n+2} .

paraffin slack wax. See slack wax.

paraffin wax (paraffin; hard paraffin). Solid mixture of purified petroleum hydrocarbons; odorl. col. or wh. mass, sp.gr. ca. 0.9; m.p. 50-57; i.w.; s.eth.; s.bz.

Paraffion. Paraffin wax emulsion containing aluminum sulfate.

Parafilm. Paraffin wax modified with an elastomer to give a flexible, thermoplastic sheet or film.

"Paraflex." chlorzoxazone.

Parafint. F-T wax.

Paraflow. Viscous oil made by condensation of chlorinated wax with an aromatic hydrocarbon.

paraformaldehyde. See polyoxy methylene.

Paragerm. Methyl-propyl-diphenol *p*-oxybenzoate.

Paraglas. polyacrylate.

Paragon clay. Hydrrous aluminum silicate.

"Paragon" TS. alkyl naphthalene sulfonate + triethanolamine and alkali.

Paraguay tea. See yerba maté.

"Paragum" #6. sodium polyacrylate.

"Paragum" 60. ammonium salt of a polycarboxylic acid copolymer.

Paragutta. Deproteinized rubber, gutta percha hydrocarbon, and wax.

parahematin. Compound of hematin with denatured proteins, nitrogenous bases and the iron atom in the ferric state.

para-hydrogen. Hydrogen molecules with anti-parallel nuclear spins and even rotational quantum numbers.

paraison. Bubble (glass) formed at end of blowers tube.

"Paral." paraldehyde.

Paralac. alkyd resin.

Paralaudin. Diacetyl-dihydro morphine.

paraldehyde (2,4,6-trimethyl 1,3,5-trioxane; paraacetaldehyde).

$OCH(CH_3)OCH(CH_3)OCHCH_3$ m.w.

ATTACHMENT C

Third Enlarged Edition

CONCISE CHEMICAL and TECHNICAL DICTIONARY

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CHEMICAL PUBLISHING CO., INC.

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- Pestox 14.** See dimefox.
- PET.** poly(ethylene terephthalate).
- pet.** Petroleum.
- petalite.** $\text{Li}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 8\text{SiO}_2$; col., wh., gray, redsh. or grnsh; monoc. min.; sp.gr. 2.386-2.465; hardness 6.0-6.5.
- petaloid.** Resembling a flower petal.
- petit-grain oil** (petit-grain citronier oil). Oil distilled from bitter-orange tree leaves and unripe fruit; yel.; sp.gr. 0.887-0.900^{15/15}; sl.s.w.; s.al.
- PETN.** See Penthrite.
- Petralol.** Liquid petrolatum.
- Petramin.** chelating dye.
- Petrex 5.** Glycol ester of terpene-maleic anhydride addition product.
- Petrex acid.** reaction product of maleic anhydride and a monocyclic terpene.
- Petrex resins.** Alkyd resins produced from Petrex acid.
- "Petrex" SS-70A.** terpene alkyd resin.
- Petri-dish.** Shallow, circular dish with a loosely fitting, overlapping cover; used for culturing microorganisms on a solid medium.
- petrified wood** (agatized wood; opalized wood; silicified wood). Wood-like mineral consisting of opal or agate.
- petri-, petro-.** Prefix meaning stone.
- Petro.** Liquid petrolatum.
- "Petro" AA** (Surfatrope). methyl naphthalene sodium sulfonate.
- Petro BA, BAF, BP, WP, SWP, (11, 208).** sodium-xylene-sulfonates.
- "Petro" 250.** Complex dimethyl naphthalene sulfonate.
- Petro 348.** linear alkyl sulfonates.
- Petroacid.** Mixture of fatty acids formed from oxidation of petroleum fractions.
- "Petrobaser" No. 2.** petroleum sulfonate and emulsifier.
- Petrobenzol.** Petroleum solvent; boiling range 61.1-96.1
- Petrocera.** beeswax (335) and petrolatum (665).
- petrochemicals.** Chemicals present in or derived from natural gas or crude petroleum by physical refining or chemical reaction.
- Petroflex.** butadiene-styrene elastomer.
- Petrohol.** isopropyl alcohol.
- Petroil.** petrolatum.
- petrol.** See gasoline.
- petrolatum** (petroleum jelly; mineral jelly; Vaseline; paraffin jelly; cosmoline; mineral fat; petroleum ointment; saxoline). Purified mixture of semi-solid hydrocarbons; lt. yel. to amber amor.; sp.gr. 0.820-0.850; m.p. 45-48; i.w.; s.eth.; s.bz.
- petrolatum, liquid.** white mineral oil.
- petrolatum, white.** See Albolene.
- Petrolene.** Petroleum solvent; boiling range 143-202°F.
- petrolenes** (malthenes). Portions of bituminous substances soluble in hexane.
- petroleum** (rock oil; coal oil; Seneca oil; mineral oil; crude oil; earth oil; Lima oil). Hydrocarbon mixture obtained from the earth; sp.gr. 0.78-0.97; yel.-black visc. liq., inflam.; i.w.; s.eth.
- petroleum acids, green.** Water-soluble acids from acid petroleum sludge.
- petroleum benzin.** See benzin.
- petroleum benzin.** Petroleum ether (see).
- petroleum, blown.** Native liquid bitumen heated and oxidized by blown air.
- petroleum, coastal type.** Asphalt-base petroleum, naphthenic in character, containing little or no paraffin wax.
- petroleum, core.** Petroleum plus core gas in core as brought to surface in drilling wells.
- petroleum ether** (canadol; light ligroin; benzine). Fraction of petroleum distilling between 40 and 70°; col. liq., inflam.; sp.gr. 0.635-0.660; s.al.; s.eth.; consists of pentanes and hexanes.
- petroleum jelly.** petrolatum.
- petroleum, mid-continent.** Mixed-base petroleum containing both paraffin wax and asphalt.
- petroleum, mixed base.** Petroleum containing paraffin hydrocarbons, asphaltic material and paraffin-wax.
- petroleum mobility.** Ratio of effective permeability to the viscosity of hydrocarbons in place.
- petroleum naphtha.** Petroleum fraction distilling between 90 and 120°; sp.gr. 0.707-0.722; consists mainly of heptanes and octanes.
- petroleum ointment.** petrolatum.
- petroleum, Pennsylvania type.** Paraffin-base petroleum, containing paraffin wax but little or no asphalt.
- petroleum pour point.** The temperature 5°F. above that at which a petroleum oil will not flow when chilled without disturbance at specified cooling rate.
- petroleum pour point, maximum.** A figure for temperature, 5°F. above the highest temperature at which an oil ceases to flow when alternately cooled and warmed under definitely prescribed conditions.
- petroleum, reduced crude.** Residue from distillation of petroleum.
- petroleum reservoir.** A natural structural trap containing an exploitable concentration of hydrocarbons.
- petroleum solvent.** Solvent obtained from petroleum distillates, e.g., petroleum ether, mineral spirits.

petroleum spirits.

petroleum spirits refined petroleum distillate point not below 7

petroleum sulfonate fonate.

petroleum sulfonic acid). Complex acids of aromatic paraffins and hi paraffins, obtaine finery sludge.

petroleum thinner. leum solvent.

petroleum, topped. additional volatile removed.

petrologen. keroge

Petromor. petroleu

Petronate. Sodium nates.

Petropol 2138. Mi olefinic hydrocarl unsaturated visco some drying-oil p

Petropon. Synthet: petroselaidic acid.

Petrosene. Microc:

Petroset. Solprene

"Petroset" SB. En "Solprene GEO."

Petrosol-C-50 (Petr C-90). Petroleum

Petrosol 25. Petro fatty ester.

"Petro" Solve. arc vent.

"Petrosul" 745. so + min. oil.

"Petrothene." poly

"Petrothene" CD- black.

"Petrothene" XL. ethylene comp.

Petrothene XL1411. ethylene.

Petro ULF-X. alk ium salt.

"Petrowet" R. sod hydrocarbon sulfo

"Petrowet" WN. c pettymorrel. See a

PE tube. Photoele

petunin (methyl de glucoside from fl brida.

pentunin chloride. C vlt. pl.; m.p. ca.

petzite. $(\text{Au} \cdot \text{Ag})_2\text{T}$ min.; sp.gr. 8.72- naturally occurin

- amine.
- Varonic T410.** Ethoxylated tallow diamine.
- Varonic Q110.** Oleyl alcohol ethoxylate.
- Varonic 3200.** Castor oil ethoxylate.
- Varonol ALS.** lauryl alcohol sulfate, ammonium salt.
- Varonol DLS.** lauryl alcohol sulfate, diethanolamine salt.
- Varonol MLS.** lauryl alcohol sulfate, magnesium salt.
- Varonol SLES.** ethoxylated lauryl alcohol sulfate, sodium salt.
- Varonol SLS.** lauryl alcohol sulfate, sodium salt.
- Varonol TAS.** lauryl alcohol sulfate, triethanolamine salt.
- Varox.** 2,5-bis(*t*-butyl-peroxy)2-,5-dimethyl-hexane.
- Varox 743.** A 50% active coco dihydroxyethyl amine oxide.
- Varox 1770.** coco amine oxide.
- Varsol.** aliphatic petroleum solvent; b.p. 148.9-210.
- Varsol 1.** petroleum solvent.
- Varsoy.** Prebodied chemically reacted soybean oil.
- "Varstat" K22.** Ethoxylated coco alkanolamide.
- Varstat T22.** ethoxylated soya alkanolamide.
- Varsulf 60.** Biodegradable linear dodecyl-benzene sulfonate as triethanolamine salt (60% solution).
- Varsulf 65.** Hard dodecyl benzene sulfonate, triethanolamine salt.
- "Varsulf" 91.** sodium octyl sulfate (40%) aq. sol'n.
- vasaca.** See adhatoda.
- Vascoloy-Ramet.** Tungsten and tantalum cemented carbides with nickel or cobalt as binding matrix.
- Vasco steel.** Carbon and low-alloy chromium-vanadium tool steels; alloy steels contain 0.15 to 0.25% vanadium, up to 1.5% chromium.
- vasculose.** Lignocellulose.
- Vaseline.** petroleum jelly.
- vasicine.** See 1-peganine.
- Vasiodone.** diiodone.
- Vasite.** Liquid stripping agent of the hydrosulfite type.
- "Vasocon."** maphazoline hydrochloride.
- "Vasodilan."** isoxsuprine HCl.
- Vasogen.** oxygenated petrolatum.
- vasopressin.** Hormone of the posterior lobe of the pituitary gland which causes contraction of the muscles of the arterioles and capillaries, with resulting rise in blood pressure, and which also causes contraction of the intestinal muscles.
- Vasoxine.** methoxamine HCl.
- Vasoxyl hydrochloride.** methoxamine hydrochloride.
- Vasylox.** methoxamine HCl.
- Vatacid.** Hydrogen leuco dispersion of a vat-dye.
- vat dye.** Dyestuff insoluble in water but soluble in alkaline solution when reduced with suitable agents, e.g., the insoluble indigo blue is converted to soluble indigo white upon reduction. The latter is applied to the cloth and oxidized by exposure to air to the original insoluble blue form.
- Vatrolite.** See Lykopen.
- Vatsol OS.** sodium salt of alkyl naphthalene sulfonic acid.
- Vatsol OT.** dioctyl sodium sulfosuccinate.
- Vatsol OT-C.** Dioctyl sodium sulfosuccinate and inert organic diluent.
- Vattene.** Vat dye.
- vatting.** Process of solubilizing vat dyes in an aqueous solution of caustic soda and sodium hydrosulfite.
- vatting test.** Re-oxidation and decolorization of reduced anthraquinones.
- Vavilov's law.** Constant quantum yield of fluorescence over broad ranges of wave-lengths.
- Vaylar.** Fine silica.
- Vaylar 800.** Arc-process silica.
- "Vazo"** Vinyl. alpha, alpha-azobisisobutyronitrile.
- V-Bor.** Borax pentahydrate.
- VC.** Vinylidene chloride plastic.
- v-c-9-104.** See prophos.
- V-C-13.** See nemacide.
- VCA.** vinyl chloride acetate.
- Veba-Wax.** New name for Ruhrwax.
- Vectolite.** Compressed powdered iron oxide and cobalt oxide.
- vector.** Straight line that, in both length and direction, represents a quantity, e.g., velocity, stress.
- vector field.** Totality of values of a vector quantity which has a definite value at each point of a region.
- vector function.** Vector quantity having a definite value for every value within certain limits of an independent variable.
- vector polygon.** Force polygon for a set of forces whose resultant equals zero.
- vector product.** Vector having magnitude equal to product of magnitudes of the factors and sine of angle between the direction of the two vectors and a direction perpendicular to their common plane.
- vector ratio.** Ratio of two alternating quantities in which vectors express the relative amplitudes and phases.

Vee. polyvinylide

"Veegum." Modified aluminum silicate

Veegum CER. V

Veegum PRO. at

veenite. 2PbS.(Sb,

veering. Clockwise

tion of the wind

vees. Beveled edge

vee-way (V-way).

machined in a ca

a moving part.

Vegadex. See CD

Vegadex. 2-C

carbamate.

"Vegamine." Hy

tein.

Vegard-Kaplan bar

caused by nitroge

Vegard law. When

line materials form

lattice constant o

the space between

constants in ratio

tities.

"Vegefat." Polyur

Vegemine. Hydro

tein.

vegetable oxy-acids.

vegetable rinse. C

hair coloring.

Vegetex. Extracts.

veg-gasoline. Motc

cracking tung or c

Vegifat. High titer

Vegol. Concentrate

tocopherols; vitam

Vegolysen. hexame

Vegolysen T. hexa

trate.

vehicle. Liquid po

printing ink.

vehicle, paint. Su

paint, consisting c

drying oils, resins,

persing medium.

veiling. Cob-web p

Vejin. Vegetable lec

vel. Velocity.

Vel. Mixed coconu

eryl sodium sulfoni

Velan PF. 1-

pyridinium chlorid

Velatrum. petroleu

Velban. Vinblastine

vellarin. Amaroid o

cotyle asiatica leav

s.al.; s.eth.

vellosine. C₂₁H₂₂O₂

396.23; yel. cr.; m.

s.eth.; toxic alkalo

velocity. Time rate

direction.

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